
Rain Barrels



The Lower Long Lake Protection & Rehab District's main goal for promoting rain barrels is to prevent stormwater runoff from eroding our shorelines and polluting our water. However, as you will read below there are other reasons rain barrels are a good idea.

Why Harvest Rainwater with Rain Barrels?

Besides helping the environment, an obvious reason for harvesting rainwater is to save money. Depending on the size of your house and the amount of rainfall in your area, you can collect a substantial amount of rainwater with a simple system. This extra water can have a significant impact on your water bill. Even if you live in a rural area and have your own well, the fact that rainwater is naturally soft may be enough to justify harvesting rainwater.

Rainwater stored in rain barrels has many uses. Some people find it mostly useful for watering their landscapes and gardens. The rainwater can help to improve the health of your gardens, lawns, and trees. Rain is a naturally soft water and devoid of minerals, chlorine, fluoride, and other chemicals. For this reason, plants respond very well to rainwater. After all, it's what plants in the wild thrive on!

Health Safety Issues

If your roof is made of wood shingles or shakes that have been treated with any chemical to make them resistant to rot and moss, lichen and algae growth, do not use the collected water on plants. Water collected from copper roofs or copper gutters also should not be used. Zinc (galvanized metal) anti-moss strips—usually mounted at the roof peak—also produce toxic chemicals you don't want in your garden.

General practice is to avoid watering vegetables and other edible plants, such as herbs for cooking, with rain barrel water. Also, do not drink this water. Roofs may leach pollutants and bacteria collected there. It is safe, however, to use the water for watering ornamental plants, shrubs, and trees.

How Much Water Can You Collect in Rain Barrels During a Rainfall?

Believe it or not, for every inch of rain that falls on a catchment area of 1,000 square feet, you can expect to collect approximately 600 gallons of rainwater. Ten inches of rain falling on a 1,000 square foot catchment area will generate about **6,000 gallons** of rainwater!



To figure out how much rain ends up at each downspout in one rain event, calculate the square feet of each of the roof catchment areas drained by a downspout. Do this by measuring the area of the outside walls and then include the overhang of any eaves. Multiply length x width to get the area of each **roof catchment area**. Now, since one inch of rainfall provides 623 gallons of water for a 1,000 square foot catchment area, use the following equation to find your yield of water in gallons.

$$\frac{\text{roof catchment area sq.ft.} \times 623 \text{ gal.}}{1,000 \text{ sq. ft.}} = \text{gallons per 1 inch rainfall}$$

If you have an average rainfall of say 20 inches per year, you have the potential to collect 24,000 gallons of water in one year. (You can use the following website to get a good idea of the [average rainfall](http://countrystudies.us/united-states/weather/) in your area: <http://countrystudies.us/united-states/weather/>)

You should consider that rainwater harvesting systems aren't necessarily 100% efficient. Most sources estimate efficiency between 70% and 90%. All rainwater harvesting systems lose some of the rainwater. To maximize your collection of rainwater, you can use out buildings such as barns or sheds. If you're creative, you can even use rainwater from a patio or other paved areas around your house.

From "Rain Barrel Guide," www.rainbarrelguide.com

More to Think About

Rain barrels can fill up fast. Have an overflow plan for the excess water. Here are some options.

1. Connect two or more rain barrels together with a hose to hold more water. Many pre-made rain barrels have adapters and hoses available for this.
2. Direct overflow to a plant bed, small rain garden, rock pit, or a low spot in your yard. Anywhere water can infiltrate into the ground and not cause erosion or run into the lake is acceptable.
3. Hook up a soaker hose to the rain barrel spigot to immediately water plant beds or other flowers. This may not drain very fast, but it will allow a little more room in the barrel.



Links

www.rainbarrelguide.com

Lots of good general information about rain barrels plus calculations for how much water you could save

<http://home.comcast.net/~leavesdance/rainbarrels/faqs.html>

Rain barrel facts, instructions, pictures, and rainfall collection calculator

Rain Barrel Suppliers

Garden centers sometimes have used whiskey barrels for sale. Keep your eyes peeled in the spring. They are cheaper than those online, but I'm not sure about their watertight qualities. Sources for food-grade plastic barrels are kind of hard to find, but ask restaurants or any place that produces food products. Here are some online suppliers of pre-constructed rain barrels (but they are much more expensive than the ones LLLPRD sells).

Aaron's Rain Barrels
Clean Air Gardening
Down to Earth
Green Culture
Rain Barrels & More
Kentucky Barrels

www.ne-design.net/

www.cleanairgardening.com/rainbarrels.html?rbg

www.naturalrainwater.com/index.html

www.composters.com/rain-barrels/great-american-rain-barrel_163_10.php

www.easycart.net/FiresideGallery/White_Oak_Barrel_Products.html#wol

www.kentuckybarrels.com/RainBarrels.html

Rain Barrel Set-Up

Choose a system to elevate your rain barrel so you can get as much water out of the spigot as possible. Cement or patio blocks work well. Make sure the barrel is stable. Be aware that a wooden stand may not hold the weight of a full rain barrel. When the barrel height is set, cut off existing downspout, or purchase a shorter one, so that the water drains directly onto the top of the barrel. Depending on your barrel placement, you may need to attach an elbow in the downspout so it reaches the barrel.

Direct the overflow hose to a bucket or an area that will not promote erosion when the rain barrel overflows (flower bed, woods, gravel). For even more water storage, you could connect two or more rain barrels together. This can be done in many ways: hooking up a hose between their spigots, directing the overflow hose of one barrel into the top of a lower barrel, connecting them at the overflow holes, or your own design. There are countless possibilities.



Tom Grewe and his double-barrel system.

Rain Barrel Instructions

(In case you want to make more!)



Materials:

Faucet Assembly

- 3/4" brass faucet (1)
- 3/4" brass locknut (1)
- 3/4" conduit locknut (1)
- 3/4" rubber O-rings (2)
- Silicone caulk

Overflow Hose Assembly

- 1 1/4" Plastic male insert adapter (1)
- 1 1/4" conduit locknut (1)
- 1 1/4" O-ring (1)
- 1 1/4" plastic sump pump hose (you choose length)
- Metal hose clamp

Other

- 40-50 gallon plastic food-grade barrel (these instructions are for barrels with a screw-off top)
- 4 sq. feet fiberglass screen

To Paint Barrel

- Medium to fine grit sandpaper
- Vinegar & water solution
- Spray paint made for plastic (Krylon, Fusion, etc.)

Tools:

Powerful electric drill
1" spade (flat) or hole saw bit
1½" spade or hole saw bit
Utility knife
Channel-lock wrench
Hammer
Flathead screwdriver



Jenny Larson and Amanda Kostner constructing rain barrel.

What To Do:

Wash out barrel and let dry.

Faucet Assembly – Pick a spot towards the bottom of the barrel where you would like the faucet located (usually a few inches from the bottom). Stand your barrel in a corner or have someone hold it to stabilize during drilling. Using the 1" spade or hole saw bit, drill the hole for the faucet. You may need to use the utility knife to shave away some of the plastic burs from drilling. Screw the brass locknut onto the faucet and slide a ¾" rubber o-ring over the threads of the faucet. Put some caulk around the drilled hole and screw the faucet into the barrel. Wipe away any excess caulk.

Reach into the barrel to caulk around the faucet on the inside. Inside the barrel, slide the other ¾" o-ring over the threads, then screw on the ¾" conduit locknut and tighten with the wrench. Make sure the smooth side of the locknut is facing the barrel.

Overflow Hose Assembly – Pick a spot for the overflow hole near the top of the barrel, making sure there is enough room for the cover to be screwed down when the hose is attached. Use the 1½" drill bit or hole saw to drill this hole. Again shave away any burs after drilling. Screw in the plastic male insert. Slide the 1¼" o-ring and the 1¼" locknut over the threads on the inside of the barrel and tighten. Attach the hose to the insert on the outside of the barrel. Use the hose clamp to tighten the hose to the insert.

Cover – Drill many 1½" holes into the cover for the water to go through. Unscrew the cover and lay the screen over the top of the barrel. Put the cover on and screw it down as much as you can. Depending on the type of barrel, sometimes the cover is made to come apart in two pieces (kind of like a canning jar lid). For safety purposes when children or pets will be around the rain barrel, leave in the insert and drill holes into it. If there will be no children or pets present, you may take out the insert.



Painting – Rough up the outside of the barrel with sandpaper. Next wash it down with a water and vinegar solution and let dry. Cover your faucet with a plastic bag. Paint your barrel using spray paint made for plastic. It may take one to one and a half cans per barrel.



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